

**Diana-Maria DRIGĂ**

*Institute of Agricultural Economics, Romanian Academy, Bucharest  
dianadriga@yahoo.com*

## EVOLUTION OF OILSEED SECTOR IN ROMANIA – AN ANALYSIS FROM THE PERSPECTIVE OF EFFECTS PRODUCED BY THE COVID-19 PANDEMIC

### ABSTRACT

Romania ranks first in the European Union for the production of sunflower seeds, third for the production of soybeans and seventh for the production of rapeseed. The paper aims to analyse the effects produced by the COVID-19 pandemic on the evolution of the oilseed sector in Romania. Thus, the following indicators were analysed: evolution of areas under oilseeds, total oilseed production and average yields, as well as the volatility of selling prices for oilseeds. The results of the study reveal that Romania has been the largest producer of sunflower seeds in the European Union. The average yields in sunflower, soybeans and rapeseed have shown great variations in the analysed period. According to Eurostat data, it can be noticed that although Romania is the third large producer of oilseeds in the EU, the average yields continue to be low compared to those from other large EU producers. Yields are also among the most volatile in the EU. The selling prices for soybeans showed a higher increase in the year 2020 than in 2019 in Romania, compared to the increase in the average selling prices of the EU-27 (+9.89%). The selling prices for rapeseed also had a higher increase in 2020 than in 2019 in Romania, compared to the increase in the average selling prices of the EU-27 (+2.31%).

**Key words:** areas, production, prices.

**JEL Classification:** Q110, Q13.

### 1. INTRODUCTION

In the context of certain shocks, as it is the case of the COVID-19 pandemic, innovation can contribute to strengthening the resilience of systems and their capacity to adapt. The COVID-19 crisis has highlighted the resilience of short food supply chains adapted to local conditions, which provide consumers with the necessary nutrients, for which farmers receive fair prices, and which also ensure the continuous functioning of food systems when borders are closed (European Commission, 2021).

Due to sustained food demand, EU agriculture has suffered relatively low damage. However, there were specific impacts and certain agricultural sectors were

hit harder than others. Beyond labour issues and logistic bottlenecks, the food supply chains in the EU must continue to adapt to the fast-changing demand, with strong uncertainties about how long the health crisis will last and how the economy will recover. The measures adopted by governments to mitigate the health crisis effects, and in particular the restrictions imposed on the transport of commodities, the problem of labour force and logistic bottlenecks, highlight the importance of increasing the resilience of agricultural markets and of food supply chains in the face of various shocks. In the year 2020, in the European Union, the disruptions in the oilseed supply chains were low due to the existence of significant global stocks.

The COVID-19 pandemic has also had negative effects on the oilseed market. In the EU, the restrictive measures and the closure of food service and tourism sectors had a negative impact on the economy, in general, and at the level of different sectors. Thus, the oilseed market was affected following the establishment of the state of emergency in various countries. The United Kingdom's withdrawal from the EU, starting with January 1, 2021, will also produce effects on trade with agri-food products, with the United Kingdom now considered a third country.

## **2. STATE OF KNOWLEDGE**

The COVID-19 pandemic has affected trade worldwide. Certain sectors had to cope with higher demand, while in others the demand decreased sharply. All the systems had to adapt to the new conditions by implementing new processes, providing new services or products. The e-commerce developed very fast throughout the pandemic period. In recent years progress has been made in the commercial policy of the European Union.

Globally, prices of oilseeds and products in 2019 were at their lowest level in recent years, a reflection of the slowdown in global demand of oils and protein meals, as well as of uncertainties arising from bilateral trade disputes. As the commercial relations between the United States and China improved in late 2019, the commercial policies had a low influence on world prices on the short term, mainly in soybeans. The vegetable oil sector was characterised by a slowdown of demand growth in China and India in January and February 2020, caused by a decrease in consumption. In China, this was due to the COVID-19 pandemic, and in India, by high domestic prices. Several countries improved the processing capacity of oilseeds, thus increasing seed imports to the detriment of oil and meal purchases (OECD, 2021).

The COVID-19 pandemic had also had negative effects on trade between the EU and its trade partners, mainly in 2020, due to restrictions imposed by governments. Imports from the EU's preferential partners for the agri-food sector are of strategic importance. This ensures the supply of products that are not cultivated in the EU out of various reasons: climate conditions, products in which the EU is less competitive due to the means of production used, insufficient

production to meet domestic demand in the EU (oilseeds, animal and vegetable fats and oils) (European Commission, 2020).

The recovery of the economies of the EU member states will be achieved through the recovery and resilience mechanism, an instrument that will support the implementation of reforms and investments across member states. The objective of the mechanism is to attenuate the economic and social impact of the COVID-19 pandemic, to increase the sustainability and resilience of the European economies and societies, and get them better prepared for the challenges generated by the green and digital transition (European Commission, 2021).

### 3. MATERIAL AND METHOD

The paper aims to analyse the evolution of the oilseed sector in Romania in the context of the COVID-19 pandemic. To reach this objective, the following indicators have been analysed:

- areas cultivated with oilseeds, total productions and average yields at national level. The obtained results were compared to those of the other countries of the European Union;
- analysis of selling price volatility in oilseeds.

To analyse the volatility of selling prices for sunflower seeds, soybeans and rapeseed, the coefficient of variation was calculated for the period 2010–2020. The coefficient of variation is the ratio of standard deviation to the arithmetic mean of the analysed data series. This coefficient expresses the degree of price volatility in the analysed product market. Thus, selling prices (euros/100 kg) for sunflower seeds, soybeans and rapeseed were used to determine price volatility for Romania and Hungary.

For the analysis, the databases of the National Institute of Statistics – tempo online, EUROSTAT, FAOSTAT, MARD, APIA were consulted, as well as various studies and publications from Romania and other countries.

## 4. RESULTS AND DISCUSSIONS

### 4.1. THE EUROPEAN CONTEXT

In the European Union, the production of protein crops is encouraged, considering the protein crop deficit in the EU agriculture and the high demand for non-GMO food and feed. The proteins of plant origin are used to obtain foodstuffs and animal feed. The demand for feed protein is about 45 million tons crude protein/year, out of which one third comes from soybeans. In the EU, self-supply in oilseeds is relatively low, varying across the three types of oilseeds: 79% for rapeseed, 42% for sunflower and 5% for soybeans. To meet its domestic demand,

the EU imports 17 million tons crude proteins each year (out of which 13 million tons come from soybeans), mainly from Brazil, Argentina and the USA (Council of the European Union, 2019).

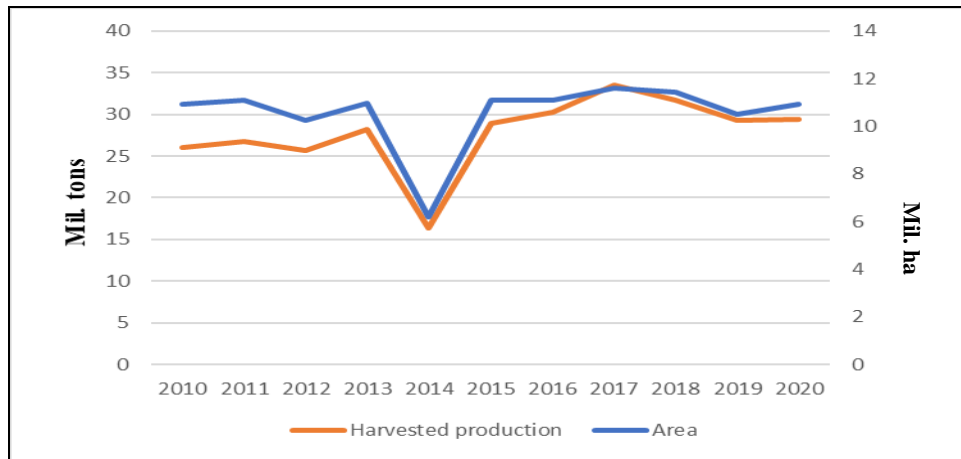
The EU imports 1.5 million tons of crude sunflower proteins and up to one million tons of rapeseed, both of which are mainly imported from Ukraine (European Commission). Soybean meal produced in the EU is on the rise due to CAP stimulating policies, but still has a limited share in total EU market.

The major oilseed crops grown in the EU are rapeseed, sunflower and soybeans. In the area cultivated with oilseeds in the EU, rapeseed accounts for 48.3%, sunflower 40.4% and soybeans 8.6%.

The EU domestic production covers two thirds of the annual consumption of oilseeds. About half of the quantity of oilseeds used for animal feed is imported. Oilseeds are used to obtain various food products. Oilseeds are also used for animal feeding in the form of feedstuffs, for biofuel production, as well as for other industrial uses (European Commission).

In the EU-27, in the year 2020, the area under oilseeds totalled 11.02 million ha, up by 3.84% from 2019, but down by 4.56% from 2018 (Figure 1). The oilseed production totalled 29.7 million tons, up by about 40 thousand tons from the year 2019. Rapeseed production was higher than in the previous year, but sunflower production was lower. The areas under soybean are increasing.

In the year 2020, rapeseed production totalled 16.57 million tons, higher by 1.28 million tons than in 2019 (an increase by 8.4%), but lower than the production in the period 2013–2017 of 18–22 million tons. Production increase was partly due to the 4% increase of the area cultivated with rapeseed in the year 2020 compared to 2019. However, the area under rapeseed is smaller than that in the period 2010–2018.



Source: Eurostat, 2021

Figure 1. Evolution of areas and production of oilseeds in EU-27

Rapeseed is the main oilseed grown in the EU. In the year 2019, EU rapeseed production totalled 17 million tons, mainly based on the demand for biodiesel as a result of the Renewable Energy Directive.

Although Romania is the third largest producer of oilseeds in the EU, average yields remain low compared to other large producers in the EU (Table 1). At the same time, they are among the most volatile in the EU.

In Romania, the area under oilseeds accounts for about 20% of total cultivated area. Sunflower is the main oilseed crop cultivated in Romania (69.6%), followed by rapeseed (20.4%) and soybeans (9.8%).

Table 1

Romania in a European context, oilseeds area, production and average yields in the year 2020

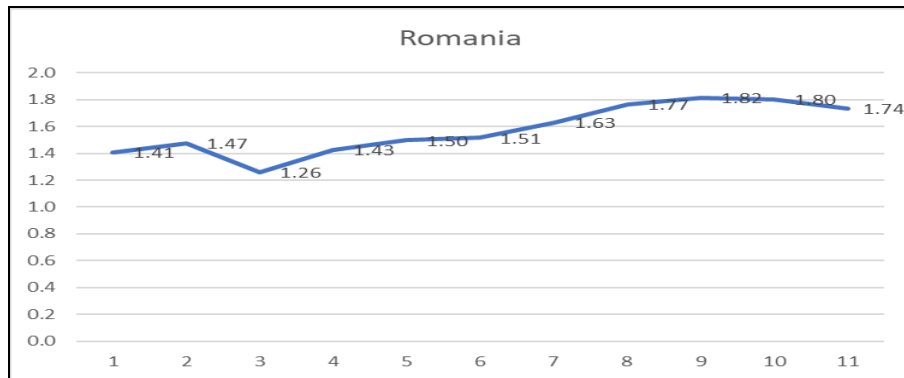
Country	Area (% of EU-27 area)	Production (% of EU-27 production)	Average yield (tons/ha)
France	19.24%	18.12%	2.54
Romania	15.75%	11.16%	1.91
Poland	9.43%	10.35%	2.96
Germany	9.36%	12.43%	3.58
Hungary	9.13%	9.25%	2.73

Source: Eurostat

#### 4.2. ANALYSIS OF THE OILSEED SECTOR IN ROMANIA

**Evolution of areas under oilseed crops.** In the year 2020, Romania's area under oilseeds totalled 1.73 million ha, representing 15.75% of the area cultivated with oilseed crops in EU-27, thus ranking second next to France (19.24%) and before Poland (9.43). In Romania, sunflower is the most cultivated oilseed crop. In the year 2020, sunflower accounted for 69.59% of total area under oilseed crops, followed by rapeseed with 20.37% and soybeans with 9.79%.

In the period 2010–2020, the evolution of areas cultivated with oilseed crops in Romania generally had an upward trend, with the exception of the years 2012, 2019 and 2020 (Figure 2). In the year 2012, the area cultivated with oilseeds decreased by 14.36% compared to the previous year, mainly due to the decrease of the area under rapeseed (-73.18%). In the year 2019, there was a very small decrease compared to the previous year (-0.82%), and in the year 2020 the decrease was by 6.57% compared to 2019. The area cultivated with oilseed crops reached a maximum value in 2018, i.e. 1.82 million ha.



Source: Eurostat

Figure 2. Evolution of areas under oilseeds in Romania, million ha

In the period 2010–2020, the area cultivated with sunflower followed an increasing trend, to reach a maximum of 1.28 million ha in 2019. In the year 2020, the area under sunflower decreased by 6.9% compared to the previous year and increased by 51% compared to 2010. Since 2020, the use of neonicotinoid pesticides has been banned for the sunflower crop. In the previous years, there were derogations from the European Commission’s decision to ban the use of neonicotinoids to treat sunflower seeds. The ban on the use of these pesticides led to the dissatisfaction of farmers, some farmers feeling discouraged to cultivate this crop, which led to the decrease of areas under this crop. Although manufacturers and traders of pesticides and herbicides claim that there is an organic range of products on the market with the same effects on pests, but without harming bees and without generating additional costs compared to neonicotinoid pesticides, farmers are reluctant to use these new alternatives. Romania ranks first in EU-27 for the area cultivated with sunflower, followed by Bulgaria and France (Table 2).

Table 2

Romania’s position in the EU for the area cultivated with sunflower in the year 2020, thou. ha

Country	Area	
	thousand ha	% of the area in EU-27
Romania	4,448.6	26.8%
Bulgaria	1,194.3	18.5%
France	821.9	17.5%

Source: Eurostat

In rapeseed, it can be noticed that the area under this crop had great variations throughout the analysed period. In the year 2011, the rapeseed area significantly decreased compared to the previous year (-27%), with the greatest decrease in the area cultivated with this crop in the year 2012 (-80% compared to 2010), to reach a total area of 105.3 thousand ha (smaller by 432 thousand ha than in 2010 and by

287.37 thousand ha than in 2011). Starting with 2013, a generally increasing trend can be noticed (with the exception of the year 2015) until 2018, to reach a maximum of 632.68 thousand ha in 2018. In the year 2019, the area decreased again, by 44.3% from 2018, while in the year 2020, the area cultivated with rapeseed increased by 2.9% compared to the previous year. For this crop, the use of neonicotinoid pesticides was also banned, resulting in farmers being discouraged to grow this crop. Romania ranks fifth in EU-27 for the area under rapeseed in the year 2020, France and Poland being on the first two positions (Table 3).

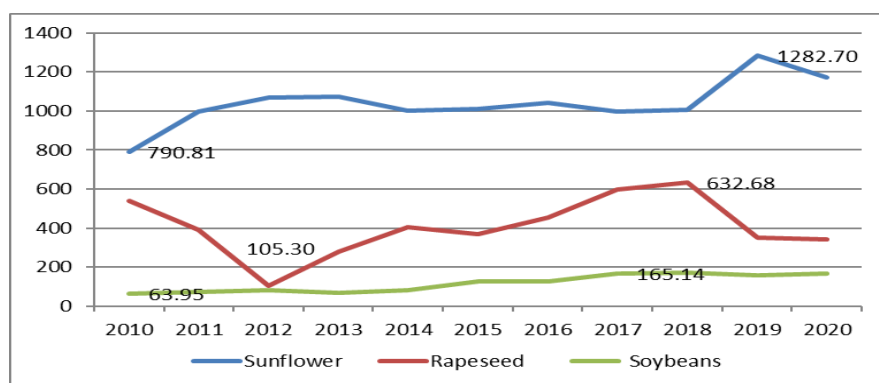
Table 3

Romania's position in EU-27 for the area cultivated with rapeseed in the year 2020

Country	Area	
	thousand ha	% of the area in EU-27
France	1,113.9	20.9%
Poland	980.9	18.4%
Germany	957.7	18.0%
Czech Republic	368.2	6.9%
Romania	362.9	6.8%

Source: Eurostat

After Romania's accession to the European Union, the cultivation of genetically modified soybean was banned, which determined a significant decline in the cultivated areas. Although, with the implementation of the CAP, the soybean crop has benefited from several forms of support (direct payment schemes, transitional national aids 1 and state aids for diesel fuel used in agriculture) and domestic soybean production increased, this increase is relatively low compared to imports. To stimulate the domestic soybean production, since 2015 active farmers in Romania have received coupled support in the crop production sector, according to Order no. 619 of April 6, 2015, issued by the Ministry of Agriculture and Rural Development (MARD). The soybean crop also benefits from this form of support (Figure 3).



Source: tempo online 2021

Figure 3. Evolution of areas cultivated with sunflower, rapeseed and soybeans, thousand ha

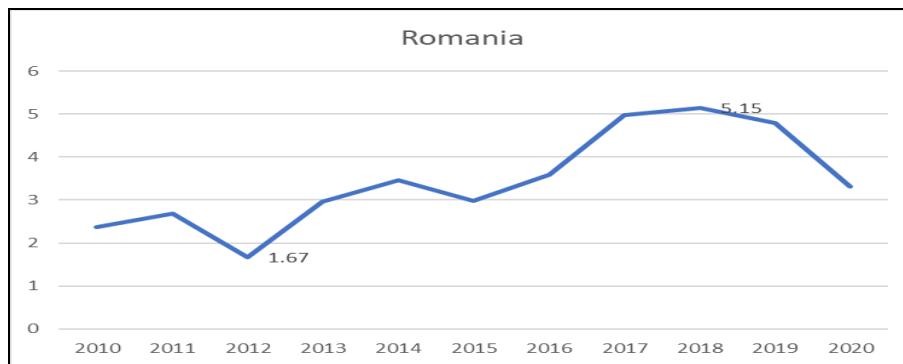
While in the year 2007 the area cultivated with soybeans decreased by 30.2% compared to 2006, in the year 2008 the soybean area decreased by 62.6% compared to 2007. In the last 10 years, the area cultivated with soybeans had an increasing trend. In the year 2015, the area under soybeans increased by 60.4% compared to the previous year, to reach 128 thousand ha, mainly as a result of the coupled support, while in the year 2020 the area reached the maximum of the last 10 years, with 174.61 thousand ha.

Romania ranks 3<sup>rd</sup> in EU-27 for the area cultivated with soybeans in the year 2020, the first two positions being occupied by Italy and France.

### 4.3. EVOLUTION OF OILSEED PRODUCTION

**Total production.** In the year 2020, Romania ranked third in the EU in oilseed production, with 3.3 million tons, accounting for 11% of the oilseed production in EU-27. Since 2014, Romania has been the EU's largest sunflower producer.

From 2010 to 2014, Romania's oilseed production had an increasing trend, to reach 3.46 million tons in 2014, up by 1.08 million tons from 2010 (Figure 4). In the year 2015, oilseed production was down by 14%, while in the next three years an increase in oilseed production was noticed. Oilseed production was seen at a record of 5.14 million tons in 2015, the largest oilseed production of the period 2010–2020. In the year 2019, oilseed production was down by 6.9% from the previous year, at 4.8 million tons. In the year 2020 Romania's oilseed production significantly decreased, down by 30.8% compared to the previous year. However, oilseed production in 2020 was by 2.3 million tons higher than in 2010.



Source: Eurostat

Figure 4. Evolution of Romania's oilseed production in the period 2010–2020, mil. tons

In the investigated period, 2010–2020, Romania's sunflower production followed an increasing trend, except for the years 2012, 2015 and 2020. In the year 2019, a record production was reached in sunflower, of 3.56 million tons, higher by



16.5% than in the previous year. In the year 2020, sunflower production was down by 38.4% compared to 2019. However, it was higher by 74.1% than in 2010, Romania ranking first in EU-27 in the production of sunflower seeds. Bulgaria ranks 2<sup>nd</sup> in EU-27 in the production of sunflower seeds, followed by Hungary and France. The four countries together account for 79.5% of sunflower production in EU-27 (Table 4).

Table 4

Romania's position in EU-27 in sunflower production in the year 2020

Country	Production	
	thousand tons	% of EU-27 production
Romania	2,198.67	24.16%
Bulgaria	1,733.53	19.05%
Hungary	1,697.96	18.66%
France	1,607.08	17.66%

Source: Eurostat

Romania's rapeseed production showed great variations in the period 2010–2020. Thus, in the period 2010–2012, rapeseed production had a downward trend, with a minimum of 157.5 thousand tons in 2012, lower by 83.3% than in 2010. Rapeseed production increased in the years 2013 and 2014, to decrease by 13.2% in 2015 compared to 2014. Rapeseed production increased again in the period 2016–2018, and in 2019 production significantly decreased compared to 2018, by 50.4%, to reach 798.2 thousand tons. Production continued its downward trend in the year 2020, lower by 2.3% compared to the previous year.

Romania ranked 7<sup>th</sup> in EU-27 in rapeseed production in the year 2020. Germany, France and Poland are on the top three positions, together accounting for 59.2% of total rapeseed production of EU-27 (Table 5).

Table 5

Romania's position in EU-27 in rapeseed production in the year 2020

Country	Production	
	thousand tons	% of EU-27 production
Germany	3,527.3	21.3%
France	3,297.1	19.9%
Poland	2,987.5	18.0%
Czech Republic	1,245.3	7.5%
Lithuania	972.4	5.9%
Hungary	876.9	5.3%
Romania	780.2	4.7%

Source: Eurostat

As a result of the ban on the cultivation of genetically modified soybeans, with Romania's accession to the EU, both soybean areas and productions

decreased. In the year 2007, soybean production was lower by 60.5% than in 2006, to reach 144 thousand tons. Soybean production continued to decrease in the years 2008 and 2009, to increase in 2010 and 2011 compared to the previous years. In the year 2012, soybean production was lower by 26.9 than in the previous year. In the period 2013–2018, soybean production had an increasing trend, with a maximum of 492.68 thousand tons in 2018, which means an increase by 242.1% compared to 2007. Soybean production was lower by 10.7% in 2019 compared to 2018, and in 2020 it was lower by 19.6% than in the previous year. It can be noticed that soybean production in 2020 was higher by 145.6% as compared to 2007.

Romania ranked 3<sup>rd</sup> in EU-27 in soybean production in the year 2020, next to Italy and France. The three countries together account for 65.6% of total soybean production in EU-27 (Table 6).

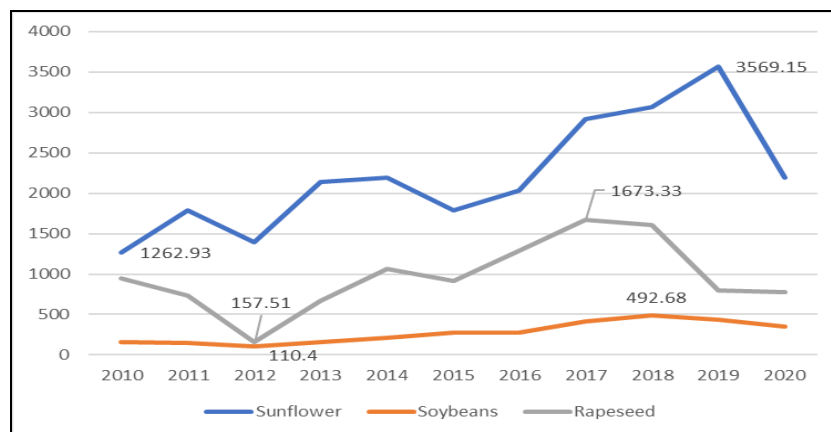
Table 6

Romania's position in EU-27 in soybean production in the year 2020

Country	Production	
	thousand tons	% of EU-27 production
Italy	1,005.63	37.3%
France	406.67	15.1%
Romania	353.64	13.1%
Croatia	266.01	9.9%
Austria	204.86	7.6%

Source: Eurostat

The figure below shows the evolution of productions of the three oil crops in the investigated period, highlighting their maximum and minimum values.



Source: Eurostat

Figure 5. Evolution of productions in sunflower, rapeseed and soybeans in Romania, in the period 2010–2020, thousand tons

*Average yields* in sunflower, soybeans and rapeseed show great variations in the analysed period. According to Eurostat data, it is found that a gap still exists between Romania and the EU, having as main cause both the low amount of inputs used and the aspects related to the variability of the rainfall regime. Romania does not have a functional irrigation system to compensate for the moisture deficit.

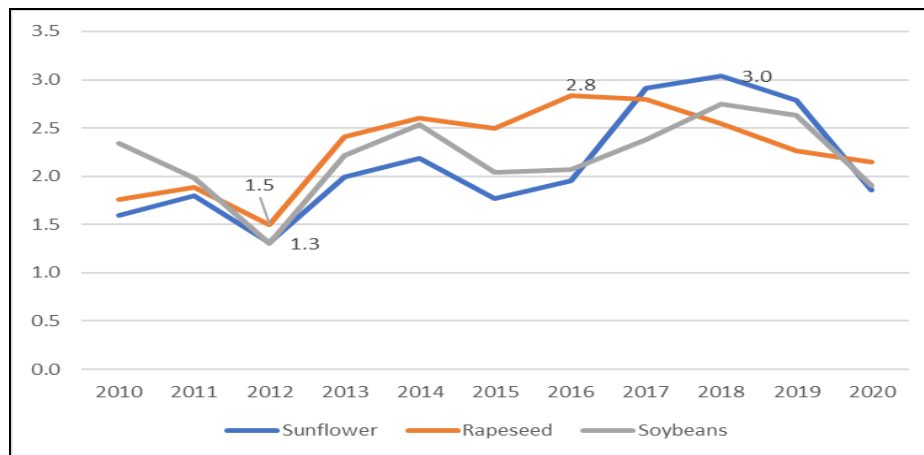
Although Romania is the largest sunflower seed producer in the European Union, it can be noticed that average yields are lower than those of the other large producers in the European Union. Sunflower average yields in Romania are also the most volatile compared to the other three countries taken for comparison.

Average soybean yields in Romania oscillated significantly in the period 2010–2020, with a minimum value in 2012 and a maximum value in 2018. In the year 2020, average yields per hectare were lower by 37.76% than in 2019, mainly due to the severe drought and lack of irrigation systems.

Among the 6 countries taken for comparison, the highest average yields are found in Italy, followed by Austria, while the lowest value are found in Bulgaria.

It is noted that for the entire analysed period, Romania has the lowest average yields among the seven large rapeseed producers in EU-27. The highest yields are found in Germany and France. The most volatile average yields are found in Lithuania, followed by Romania and Hungary.

The figure 6 presents the evolution of average yields in sunflower, soybeans and rapeseed in the period 2010–2020, their minimum and maximum values.



Source: tempo online

Figure 6. Evolution of average yields in sunflower, soybeans and rapeseed in Romania, in the period 2010–2020, tons/ha

#### 4.4. SELLING PRICES

From the analysis of the evolution of selling prices in sunflower seeds in Romania, in the period 2010–2020, an increase by 14.1% can be noticed in the year 2020 compared to the previous year and by 9.7% compared to the year 2010. Selling prices for sunflower seeds showed a higher increase in the year 2020 compared to 2019 in Romania, as compared to the increase of average selling prices in EU-27 (+3.52%).

To analyse the selling price volatility in sunflower seeds, the coefficient of variation was calculated for the period 2010–2020. Thus, the selling prices (euros/100 kg) for sunflower seeds were used to determine price volatility for Romania, Bulgaria, Hungary and Spain. Hungary has the lowest coefficient of variation, which means that the market is less volatile in Hungary. Spain has the most volatile market (Table 7).

From the analysis of soybean price evolution in Romania in the period 2010–2020, it results an increase by 5.03% in the year 2011 compared to 2010 and an increase by 11.6% in the year 2020 compared to 2019. Soybean selling prices were higher by 4.8% in the year 2020 compared to 2010. Selling prices for soybeans showed a higher increase in the year 2020 than in 2019 in Romania, as compared to the increase of average selling prices in EU-27 (+9.89%).

Table 7

The coefficient of variation of selling prices for sunflower seeds

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average	CV%
Romania	28.3	37.3	41.3	36.0	28.4	33.7	33.6	30.0	28.4	27.2	31.0	32.3	14.0%
Bulgaria	27.5	35.5	43.0	31.1	30.6	35.7	35.6	32.2	29.1	30.0	37.1	33.4	13.4%
Hungary	32.8	39.1	46.4	33.6	31.2	36.3	34.0	32.4	30.5	31.0	34.8	34.7	13.3%
Spain	36.5	38.0	50.0	34.0	30.4	36.4	34.8	32.9	30.6	31.6	33.6	35.4	15.4%

Source: author's calculations based on Eurostat data

In France, prices were lower by 1.36% in the year 2011 than in 2010, while in Hungary prices were higher by 7.55% in the year 2011 than in 2010 and lower by 0.16% in the year 2019 compared to 2010.

Price variability can be noticed throughout the investigated period, mainly determined by the weather conditions, which leads to an unstable supply on the domestic market and to price instabilities on the international markets.

For the analysis of soybean price volatility, the coefficient of variation was calculated for the period 2010–2020 (Table 8). Thus, the selling prices (euros/100 kg) were used for soybeans, to determine price volatility in Romania, Croatia, Austria and Bulgaria.

Table 8

The coefficient of variation of selling prices for soybeans

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average	CV%
Romania	29.2	30.7	38.4	41.4	32.2	29.9	31.0	29.3	29.0	27.4	30.6	31.7	13.5%
Croatia	:	32.7	47.0	39.9	30.7	31.6	30.9	35.8	30.3	29.3	33.7	34.2	16.0%
Austria	32.3	34.6	46.7	39.4	34.7	31.9	33.3	34.5	34.3	31.4	34.1	35.2	12.4%
Bulgaria	36.7	31.5	50.3	65.3	61.7	48.4	36.8	32.4	33.3	29.7	34.2	41.8	30.1%

Source: author's calculations based on Eurostat data

A higher value of the coefficient of variation in Romania than in Austria can be noticed, which means that the soybean market is more volatile in Romania than in Austria. Soybean market in Bulgaria is the most volatile market.

From the analysis of the evolution of rapeseed prices in Romania in the period 2010–2020, an increase by 3.8% can be noticed in the year 2020 as compared to 2020 and by 12.8% compared to 2010. Rapeseed selling prices showed a higher increase in the year 2020 compared to 2019 in Romania, as compared to the increase of average selling prices in EU-27 (+2.31%).

The coefficient of variation for the period 2010–2020 was calculated for the analysis of price volatility of rapeseed. Selling prices (euros/100 kg) for rapeseed were used to determine price volatility in Romania, Germany, Poland, the Czech Republic, Lithuania and Hungary (Table 9).

Romania has the lowest coefficient of variation, which means that rapeseed market in Romania is the least volatile as compared to the other countries taken for comparison. The most volatile market is that of Hungary.

Table 9

The coefficient of variation of selling prices for rapeseed

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Media	CV%
Romania	29.7	38.2	41.0	35.5	30.2	36.9	35.0	34.6	30.9	32.2	33.5	34.3	10.3%
Germany	32.7	44.4	43.9	40.0	33.5	35.0	35.6	37.0	35.3	35.9	36.8	37.3	10.5%
Poland	32.0	44.6	47.3	35.1	31.5	36.0	:	37.0	36.5	36.3	36.9	37.3	13.4%
Czech Republic	30.6	45.6	47.1	42.2	35.3	36.2	37.5	40.2	36.2	36.7	37.4	38.6	12.4%
Lithuania	31.8	42.2	45.6	34.9	29.3	34.1	36.5	35.7	35.5	34.9	35.7	36.0	12.4%
Hungary	29.2	42.7	48.6	38.3	33.1	36.5	35.3	36.2	33.9	35.7	35.9	36.8	13.9%

Source: author's calculations based on Eurostat data

## 5. CONCLUSIONS

The COVID-19 pandemic has also had negative effects on the oilseed market. In the European Union, the restrictive measures and the closure of food service and tourism sectors had a negative impact both at the level of the economy in general and at the level of various sectors. Thus, the oilseed market was affected by the establishment of the state of emergency in various countries. In Romania, the ban on the use of neonicotinoid pesticides in sunflower and rapeseed crops and the drought in the summer of 2020 also had negative effects on the oilseed sector.

In the European Union, the production of protein crops is encouraged, given the protein crop deficit in the EU agriculture and the high demand for non-GMO food and feed.

In EU-27, in the year 2020, the area under oilseeds totalled 11.02 million ha, up by 3.84% from 2019, but down by 4.56% compared to 2018. Oilseed production totalled 29.7 million tons, higher by about 40 thousand tons than in 2019.

Although Romania is the third largest producer of oilseeds in the EU, average yields continue to be low as compared to those of other large producers in the EU. At the same time, average yields in Romania are among the most volatile in the EU.

In the year 2020, the area under oil crops in Romania totalled 1.73 million ha, accounting for 15.75% of the area cultivated with oil crops in EU-27, thus ranking 2<sup>nd</sup> next to France (19.24%) and before Poland (9.43).

In Romania, sunflower is the most cultivated oil crop. In the year 2020, the area under sunflower represented 69.59% of total area cultivated with oil crops, followed by rapeseed with 20.37% and soybeans with 9.79%.

In the year 2020, Romania ranked 1<sup>st</sup> in the EU for the area cultivated with sunflower, followed by Bulgaria and France; Romania ranked 5<sup>th</sup> for the area cultivated with rapeseed and 3<sup>rd</sup> for the area cultivated with soybeans.

In the year 2020, Romania's oilseed production totalled 3.3 million tons, accounting for 11% of oilseed production in EU-27, Romania ranking 3<sup>rd</sup> in the EU. Since 2014, Romania has been the largest sunflower producer in the EU.

Romania ranked 7<sup>th</sup> in EU-27 in rapeseed production and 3<sup>rd</sup> in soybean production.

Average yields in sunflower, soybeans and rapeseed show great variations in the analysed period. According to the Eurostat data, there is still a gap between Romania and the EU, mainly caused by the low amount of inputs used and the high rainfall variability. Romania does not have a functional irrigation system to compensate for the moisture deficit.

Although Romania is the largest producer of sunflower seeds in the European Union, average yields in this crop are lower than those of the other large producers of the EU. For the entire analysed period, Romania had the lowest average yields among the seven large rapeseed producers in EU-27. Among the 6 countries for

which we compared the average soybean yields, the highest yields were found in Italy and Austria, while the lowest yields were found in Bulgaria.

Selling prices for soybeans showed a higher increase in the year 2020 than in 2019 in Romania, as compared to the increase of average selling prices in EU-27 (+9.89%).

Selling prices for rapeseed showed a higher increase in the year 2020 than in 2019 in Romania, as compared to the increase of average selling prices in EU-27 (+2.31%).

## REFERENCES

1. European Commission, "Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of EU trade agreements 1 January 2019 – 31 December 2019", Brussels, 12.11.2020
2. [https://ec.europa.eu/info/food-farming-fisheries/plants-and-plant-products/plant-products/cereals\\_ro](https://ec.europa.eu/info/food-farming-fisheries/plants-and-plant-products/plant-products/cereals_ro)
3. <https://data.consilium.europa.eu/doc/document/ST-5448-2019-INIT/ro/pdf>
4. [https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Oilseeds%20and%20Products%20Annual\\_Vienna\\_European%20Union\\_04-01-2021.pdf](https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Oilseeds%20and%20Products%20Annual_Vienna_European%20Union_04-01-2021.pdf)
5. <https://www.oecd-ilibrary.org/sites/8af6f4b7-en/index.html?itemId=/content/component/8af6f4b7-en>
6. [https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility\\_ro#planurile-naionale-de-redresare-i-rezilien](https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_ro#planurile-naionale-de-redresare-i-rezilien)
7. <https://ec.europa.eu/eip/agriculture/en/news/eip-agri-strengthening-agricultural-resilience>
8. [www.eurostat.eu](http://www.eurostat.eu)
9. [www.mard.ro](http://www.mard.ro)
10. [www.statistici.insse.ro](http://www.statistici.insse.ro)